Release notes for ENDF/B Development n-074_W_184 evaluation

April 26, 2017

- `fizcon` Warnings:

  1. Cross-correlations with threshold reactions, so covariance doesn't start at 10e-5 eV, FIZCON bug!
     MAT=7437, MF=33, MT= 2 (1): X Thresh. cov.

     ```
     ERROR(S) FOUND IN MAT=7437, MF=33, MT=  2
         ENERGY INCORRECT                              SEQUENCE NUMBER    1
             EXPECT  1.00000E-05, FIND  1.00000E+04
         ENERGY INCORRECT                              SEQUENCE NUMBER    1
             EXPECT  1.00000E-05, FIND  1.00000E+04
     ... [16 more lines]
     ```

  2. Threshold reaction, so covariance doesn't start at 10e-5 eV, FIZCON bug!
     MAT=7437, MF=33, MT= 17 (1): Thresh. cov.

     ```
     ERROR(S) FOUND IN MAT=7437, MF=33, MT= 17
         ENERGY INCORRECT                              SEQUENCE NUMBER    3
             EXPECT  1.00000E-05, FIND  1.50000E+04
         ENERGY INCORRECT                              SEQUENCE NUMBER    3
             EXPECT  1.00000E-05, FIND  4.49650E+06
     ```

  3. Threshold reaction, so covariance doesn't start at 10e-5 eV, FIZCON bug!
     MAT=7437, MF=33, MT= 51 (1): Thresh. cov.

     ```
     ERROR(S) FOUND IN MAT=7437, MF=33, MT= 51
         ENERGY INCORRECT                              SEQUENCE NUMBER    6
             EXPECT  1.00000E-05, FIND  1.50000E+04
         ENERGY INCORRECT                              SEQUENCE NUMBER    6
             EXPECT  1.00000E-05, FIND  4.49650E+06
     ```

  4. Cross-correlations with threshold reactions, so covariance doesn't start at 10e-5 eV, FIZCON bug!
     MAT=7437, MF=33, MT=102 (1): X Thresh. cov.

     ```
     ERROR(S) FOUND IN MAT=7437, MF=33, MT=102
         ENERGY INCORRECT                              SEQUENCE NUMBER    1
             EXPECT  1.00000E-05, FIND  1.00000E+04
         ENERGY INCORRECT                              SEQUENCE NUMBER    7
             EXPECT  1.00000E-05, FIND  4.49650E+06
     ... [10 more lines]
     ```

  5. Threshold reaction, so covariance doesn't start at 10e-5 eV, FIZCON bug!
     MAT=7437, MF=33, MT=851 (1): Thresh. cov.

     ```
     ERROR(S) FOUND IN MAT=7437, MF=33, MT=851
         ENERGY INCORRECT                              SEQUENCE NUMBER    1
             EXPECT  1.00000E-05, FIND  4.49650E+06
         ENERGY INCORRECT                              SEQUENCE NUMBER    1
             EXPECT  1.00000E-05, FIND  4.49650E+06
     ... [10 more lines]
     ```

  6. Threshold reaction, so covariance doesn't start at 10e-5 eV, FIZCON bug!
     MAT=7437, MF=33, MT=852 (1): Thresh. cov.

1

```
        ERROR(S) FOUND IN MAT=7437, MF=33, MT=852
            ENERGY INCORRECT                            SEQUENCE NUMBER    3
                EXPECT  1.00000E-05, FIND  2.25360E+05
```

7. Threshold reaction, so covariance doesn't start at 10e-5 eV, FIZCON bug!
   MAT=7437, MF=33, MT=853 (1): Thresh. cov.

```
        ERROR(S) FOUND IN MAT=7437, MF=33, MT=853
            ENERGY INCORRECT                            SEQUENCE NUMBER    5
                EXPECT  1.00000E-05, FIND  2.25360E+05
```

8. Threshold reaction, so covariance doesn't start at 10e-5 eV, FIZCON bug!
   MAT=7437, MF=33, MT=854 (1): Thresh. cov.

```
        ERROR(S) FOUND IN MAT=7437, MF=33, MT=854
            ENERGY INCORRECT                            SEQUENCE NUMBER    5
                EXPECT  1.00000E-05, FIND  2.25360E+05
```

9. Threshold reaction, so covariance doesn't start at 10e-5 eV, FIZCON bug!
   MAT=7437, MF=33, MT=855 (1): Thresh. cov.

```
        ERROR(S) FOUND IN MAT=7437, MF=33, MT=855
            ENERGY INCORRECT                            SEQUENCE NUMBER    4
                EXPECT  1.00000E-05, FIND  2.25360E+05
```

10. Threshold reaction, so covariance doesn't start at 10e-5 eV, FIZCON bug!
    MAT=7437, MF=33, MT=856 (1): Thresh. cov.

```
        ERROR(S) FOUND IN MAT=7437, MF=33, MT=856
            ENERGY INCORRECT                            SEQUENCE NUMBER    1
                EXPECT  1.00000E-05, FIND  2.25360E+05
```

- `fizcon` Errors:

  1. Outgoing ZA is wrong
     MAT=7437, MF=10, MT= 18 (1): Bad ZA (b)

```
        ERROR(S) FOUND IN MAT=7437, MF=10, MT= 18
            IZAP        0 NOT IN RANGE    3000 TO  120000
```

- `psyche` Warnings:

  1. Level density in URR not in agreement with PSYCHE's expectations
     FILE 2 / SECTION 151 / ENERGY = 1.00000E+04. STRENGTH FUNCTION IS 1.80000E-05 / ENERGY = 1.00000E+04. STRENGTH FUNCTION IS 1.80000E-05 / DENSITY 4.15630E+01 SHOULD BE 3.94868E+01 (0): URR dens. (a)

```
        FILE  2
          SECTION 151
                ENERGY =  1.00000E+04. STRENGTH FUNCTION IS  1.80000E-05
                        ENERGY =  1.00000E+04. STRENGTH FUNCTION IS  1.80000E-05
                                DENSITY  4.15630E+01 SHOULD BE  3.94868E+01
```

  2. Level density in URR not in agreement with PSYCHE's expectations
     FILE 2 / SECTION 151 / ENERGY = 2.00000E+04. STRENGTH FUNCTION IS 1.80000E-05 / DENSITY 4.08849E+01 SHOULD BE 3.88445E+01 (0): URR dens. (a)

```
FILE  2
   SECTION 151
         ENERGY =  2.00000E+04. STRENGTH FUNCTION IS  1.80000E-05
                            DENSITY  4.08849E+01 SHOULD BE  3.88445E+01
```

3. Level density in URR not in agreement with PSYCHE's expectations
   *FILE 2 / SECTION 151 / ENERGY = 5.00000E+04. STRENGTH FUNCTION IS
   1.80000E-05 / DENSITY 3.89196E+01 SHOULD BE 3.69828E+01 (0): URR dens. (a)*

```
FILE  2
   SECTION 151
         ENERGY =  5.00000E+04. STRENGTH FUNCTION IS  1.80000E-05
                            DENSITY  3.89196E+01 SHOULD BE  3.69828E+01
```

4. Level density in URR not in agreement with PSYCHE's expectations
   *FILE 2 / SECTION 151 / ENERGY = 1.00000E+05. STRENGTH FUNCTION IS
   1.80000E-05 / DENSITY 3.58602E+01 SHOULD BE 3.40843E+01 (0): URR dens. (a)*

```
FILE  2
   SECTION 151
         ENERGY =  1.00000E+05. STRENGTH FUNCTION IS  1.80000E-05
                            DENSITY  3.58602E+01 SHOULD BE  3.40843E+01
```

5. Level density in URR not in agreement with PSYCHE's expectations
   *FILE 2 / SECTION 151 / ENERGY = 1.00000E+04. STRENGTH FUNCTION IS
   1.45000E-04 / ENERGY = 1.00000E+04. STRENGTH FUNCTION IS 1.45000E-04 /
   DENSITY 3.01793E+01 SHOULD BE 2.77087E+01 (0): URR dens. (a)*

```
FILE  2
   SECTION 151
      ENERGY =  1.00000E+04. STRENGTH FUNCTION IS  1.45000E-04
               ENERGY =  1.00000E+04. STRENGTH FUNCTION IS  1.45000E-04
                            DENSITY  3.01793E+01 SHOULD BE  2.77087E+01
```

6. Level density in URR not in agreement with PSYCHE's expectations
   *FILE 2 / SECTION 151 / ENERGY = 2.00000E+04. STRENGTH FUNCTION IS
   1.45000E-04 / DENSITY 2.96844E+01 SHOULD BE 2.72566E+01 (0): URR dens. (a)*

```
FILE  2
   SECTION 151
         ENERGY =  2.00000E+04. STRENGTH FUNCTION IS  1.45000E-04
                            DENSITY  2.96844E+01 SHOULD BE  2.72566E+01
```

7. Level density in URR not in agreement with PSYCHE's expectations
   *FILE 2 / SECTION 151 / ENERGY = 5.00000E+04. STRENGTH FUNCTION IS
   1.45000E-04 / DENSITY 2.82503E+01 SHOULD BE 2.59464E+01 (0): URR dens. (a)*

```
FILE  2
   SECTION 151
         ENERGY =  5.00000E+04. STRENGTH FUNCTION IS  1.45000E-04
                            DENSITY  2.82503E+01 SHOULD BE  2.59464E+01
```

8. Level density in URR not in agreement with PSYCHE's expectations
   *FILE 2 / SECTION 151 / ENERGY = 1.00000E+05. STRENGTH FUNCTION IS
   1.45000E-04 / DENSITY 2.60187E+01 SHOULD BE 2.39068E+01 (0): URR dens. (a)*

```
    FILE  2
       SECTION 151
                 ENERGY =  1.00000E+05. STRENGTH FUNCTION IS  1.45000E-04
                                DENSITY  2.60187E+01 SHOULD BE  2.39068E+01
```

- `psyche` Errors:

  1. A probability distribution is negative. This is bad.
     *FILE 4 / SECTION 2 / DISTRIBUTION IS NEGATIVE / FROM -9.1293E-01 TO
     -1.0000E+00 NEGATIVE PROBABILITY IS 1.7881E-07 (0): Neg. prob.*

     ```
         FILE  4
            SECTION   2
                 DISTRIBUTION IS NEGATIVE
                         FROM -9.1293E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  1.7881E-07
     ```

  2. A probability distribution is negative. This is bad.
     *FILE 4 / SECTION 2 / DISTRIBUTION IS NEGATIVE / FROM -9.3750E-01 TO
     -1.0000E+00 NEGATIVE PROBABILITY IS 1.1921E-07 (0): Neg. prob.*

     ```
         FILE  4
            SECTION   2
                 DISTRIBUTION IS NEGATIVE
                         FROM -9.3750E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  1.1921E-07
     ```

  3. A probability distribution is negative. This is bad.
     *FILE 4 / SECTION 2 / DISTRIBUTION IS NEGATIVE / FROM -1.0000E+00 TO
     -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00 (0): Neg. prob.*

     ```
         FILE  4
            SECTION   2
                 DISTRIBUTION IS NEGATIVE
                         FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
                         FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
     ```

  4. A probability distribution is negative. This is bad.
     *FILE 4 / SECTION 51 / DISTRIBUTION IS NEGATIVE / FROM -5.0000E-01 TO
     -1.0000E+00 NEGATIVE PROBABILITY IS 1.1325E-06 (0): Neg. prob.*

     ```
         FILE  4
            SECTION  51
                 DISTRIBUTION IS NEGATIVE
                         FROM -5.0000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  1.1325E-06
     ```

  5. A probability distribution is negative. This is bad.
     *FILE 4 / SECTION 51 / DISTRIBUTION IS NEGATIVE / FROM -1.0000E+00 TO
     -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00 (0): Neg. prob.*

     ```
         FILE  4
            SECTION  51
                 DISTRIBUTION IS NEGATIVE
                         FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
                         FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
         ... [2 more lines]
     ```

6. A probability distribution is negative. This is bad.
FILE 4 / SECTION 51 / DISTRIBUTION IS NEGATIVE / FROM -6.6650E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 4.7684E-07 (0): Neg. prob.

```
FILE  4
   SECTION  51
        DISTRIBUTION IS NEGATIVE
                FROM -6.6650E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  4.7684E-07
```

7. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 346 / FROM -9.9506E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 7.9870E-06 (0): Neg. prob.

```
FILE  6
   SECTION  5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   346
                FROM -9.9506E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  7.9870E-06
```

8. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 662 / FROM -9.9994E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 5.9605E-08 (0): Neg. prob.

```
FILE  6
   SECTION  5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   662
                FROM -9.9994E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  5.9605E-08
```

9. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 880 / FROM -9.9890E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 5.9605E-08 (0): Neg. prob.

```
FILE  6
   SECTION  5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   880
                FROM -9.9890E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  5.9605E-08
```

10. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 902 / FROM -8.7500E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.1921E-06 (0): Neg. prob.

```
FILE  6
   SECTION  5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   902
                FROM -8.7500E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  1.1921E-06
```

11. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 902 / FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00 (0): Neg. prob.

```
FILE  6
   SECTION   5
       DISTRIBUTION IS NEGATIVE                          SEQUENCE NUMBER   902
               FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
               FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
... [3 more lines]
```

12. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 902
    (0): Neg. prob.

```
FILE  6
   SECTION   5
       DISTRIBUTION IS NEGATIVE                          SEQUENCE NUMBER   902
               ENERGY BALANCE SUMMARY: Q =  -7.41100E+06       ENERGY BALANCE SUMMARY: Q =  -7.41100E+06
```

13. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 902
    / ENERGY BALANCE SUMMARY: Q = -7.41100E+06 (0): Neg. prob.

```
FILE  6
   SECTION   5
       DISTRIBUTION IS NEGATIVE                          SEQUENCE NUMBER   902
               ENERGY BALANCE SUMMARY: Q =  -7.41100E+06
```

14. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 880
    (0): Neg. prob.

```
FILE  6
   SECTION   5
       DISTRIBUTION IS NEGATIVE                          SEQUENCE NUMBER   880
               ENERGY BALANCE SUMMARY: Q =  -1.36020E+07       ENERGY BALANCE SUMMARY: Q =  -1.36020E+07
```

15. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 880
    / ENERGY BALANCE SUMMARY: Q = -1.36020E+07 (0): Neg. prob.

```
FILE  6
   SECTION   5
       DISTRIBUTION IS NEGATIVE                          SEQUENCE NUMBER   880
               ENERGY BALANCE SUMMARY: Q =  -1.36020E+07
```

16. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 370 /
    FROM -9.9506E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 7.9870E-06 (0):
    Neg. prob.

```
FILE  6
   SECTION   5
       DISTRIBUTION IS NEGATIVE                          SEQUENCE NUMBER   370
               FROM -9.9506E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  7.9870E-06
```

17. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 689
    / FROM -9.9962E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
    (0): Neg. prob.

```
FILE  6
   SECTION   5
         DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   689
               FROM -9.9962E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
```

18. A probability distribution is negative. This is bad.
    *FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 946 /
    FROM -9.0005E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.7881E-07 (0):
    Neg. prob.*

```
FILE  6
   SECTION   5
         DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   946
               FROM -9.0005E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  1.7881E-07
```

19. A probability distribution is negative. This is bad.
    *FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 869
    / FROM -9.9955E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
    (0): Neg. prob.*

```
FILE  6
   SECTION   5
         DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   869
               FROM -9.9955E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
```

20. A probability distribution is negative. This is bad.
    *FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 891
    / FROM -9.9976E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -2.9802E-08
    (0): Neg. prob.*

```
FILE  6
   SECTION   5
         DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   891
               FROM -9.9976E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -2.9802E-08
```

21. A probability distribution is negative. This is bad.
    *FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 946
    / FROM -9.3750E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -2.3842E-07
    (0): Neg. prob.*

```
FILE  6
   SECTION   5
         DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   946
               FROM -9.3750E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -2.3842E-07
```

22. A probability distribution is negative. This is bad.
    *FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 946
    / FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
    (0): Neg. prob.*

```
FILE  6
   SECTION   5
         DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   946
               FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
               FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
... [34 more lines]
```

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23. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 957 / FROM -8.7500E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 3.5763E-07 (0): Neg. prob.

```
FILE  6
   SECTION   5
      DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   957
                FROM -8.7500E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  3.5763E-07
```

24. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 957 / FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00 (0): Neg. prob.

```
FILE  6
   SECTION   5
      DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   957
                FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
                FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
... [15 more lines]
```

25. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 814 / FROM -9.9994E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00 (0): Neg. prob.

```
FILE  6
   SECTION   5
      DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   814
                FROM -9.9994E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
```

26. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 891 / FROM -7.5000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 3.9339E-06 (0): Neg. prob.

```
FILE  6
   SECTION   5
      DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   891
                FROM -7.5000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  3.9339E-06
```

27. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 891 / FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00 (0): Neg. prob.

```
FILE  6
   SECTION   5
      DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   891
                FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
                FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
... [12 more lines]
```

28. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 913

```
/ FROM -8.7500E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -5.9605E-07
(0): Neg. prob.


   FILE  6
     SECTION   5
        DISTRIBUTION IS NEGATIVE                      SEQUENCE NUMBER   913
                FROM -8.7500E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -5.9605E-07
```

29. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 913
    / FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
    (0): Neg. prob.

```
   FILE  6
     SECTION   5
        DISTRIBUTION IS NEGATIVE                      SEQUENCE NUMBER   913
                FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
                FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
... [6 more lines]
```

30. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 946
    / FROM -9.3750E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -1.1921E-07
    (0): Neg. prob.

```
   FILE  6
     SECTION   5
        DISTRIBUTION IS NEGATIVE                      SEQUENCE NUMBER   946
                FROM -9.3750E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -1.1921E-07
```

31. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 957
    / FROM -9.6875E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
    (0): Neg. prob.

```
   FILE  6
     SECTION   5
        DISTRIBUTION IS NEGATIVE                      SEQUENCE NUMBER   957
                FROM -9.6875E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
```

32. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 957
    (0): Neg. prob.

```
   FILE  6
     SECTION   5
        DISTRIBUTION IS NEGATIVE                      SEQUENCE NUMBER   957
                ENERGY BALANCE SUMMARY: Q =  -7.69900E+06      ENERGY BALANCE SUMMARY: Q =  -7.69900E+06
                ENERGY BALANCE SUMMARY: Q =  -2.16660E+07      ENERGY BALANCE SUMMARY: Q =  -2.16660E+07
```

33. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 957
    / ENERGY BALANCE SUMMARY: Q = -2.16660E+07 (0): Neg. prob.

```
FILE  6
   SECTION  5
      DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   957
            ENERGY BALANCE SUMMARY: Q = -2.16660E+07
```

34. A probability distribution is negative. This is bad.
    *FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 869
    / FROM -9.3750E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -5.9605E-08
    (0): Neg. prob.*

```
FILE  6
   SECTION  5
      DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   869
            FROM -9.3750E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -5.9605E-08
```

35. A probability distribution is negative. This is bad.
    *FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 880 /
    FROM -9.1675E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.1921E-07 (0):
    Neg. prob.*

```
FILE  6
   SECTION  5
      DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   880
            FROM -9.1675E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  1.1921E-07
```

36. A probability distribution is negative. This is bad.
    *FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 891 /
    FROM -6.8750E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.3709E-06 (0):
    Neg. prob.*

```
FILE  6
   SECTION  5
      DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   891
            FROM -6.8750E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  1.3709E-06
```

37. A probability distribution is negative. This is bad.
    *FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 902 /
    FROM -9.3750E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.3709E-06 (0):
    Neg. prob.*

```
FILE  6
   SECTION  5
      DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   902
            FROM -9.3750E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  1.3709E-06
```

38. A probability distribution is negative. This is bad.
    *FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 924 /
    FROM -7.5000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 3.0994E-06 (0):
    Neg. prob.*

```
FILE  6
   SECTION  5
      DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   924
            FROM -7.5000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  3.0994E-06
```

39. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 924 / FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00 (0): Neg. prob.

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                        SEQUENCE NUMBER   924
                      FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
                      FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
... [15 more lines]
```

40. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 924 (0): Neg. prob.

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                        SEQUENCE NUMBER   924
                      ENERGY BALANCE SUMMARY: Q =  -1.46330E+07            ENERGY BALANCE SUMMARY: Q =  -1.46330E+07
```

41. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 924 / ENERGY BALANCE SUMMARY: Q = -1.46330E+07 (0): Neg. prob.

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                        SEQUENCE NUMBER   924
                      ENERGY BALANCE SUMMARY: Q =  -1.46330E+07
```

42. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 390 / FROM -9.9504E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 8.0466E-06 (0): Neg. prob.

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                        SEQUENCE NUMBER   390
                      FROM -9.9504E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  8.0466E-06
```

43. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 869 / FROM -9.9998E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -8.9407E-08 (0): Neg. prob.

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                        SEQUENCE NUMBER   869
                      FROM -9.9998E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -8.9407E-08
```

44. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 869 / FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00 (0): Neg. prob.

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   869
                FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
                FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
... [2 more lines]
```

45. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 705 / FROM -9.6875E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 5.9605E-08 (0): Neg. prob.

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   705
                FROM -9.6875E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  5.9605E-08
```

46. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 705 / FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00 (0): Neg. prob.

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   705
                FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
                FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
... [2 more lines]
```

47. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 748 / FROM -9.9732E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -8.9407E-08 (0): Neg. prob.

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   748
                FROM -9.9732E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -8.9407E-08
```

48. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 825 / FROM -9.9997E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 5.9605E-08 (0): Neg. prob.

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   825
                FROM -9.9997E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  5.9605E-08
```

49. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 825 / FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00 (0): Neg. prob.

```
FILE  6
   SECTION   5
```

```
                DISTRIBUTION IS NEGATIVE                            SEQUENCE NUMBER    825
                     FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
                     FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
        ... [4 more lines]
```

50. A probability distribution is negative. This is bad.
    *FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 836 /
    FROM -9.8438E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 2.9802E-07 (0):
    Neg. prob.*

```
        FILE  6
           SECTION   5
                DISTRIBUTION IS NEGATIVE                            SEQUENCE NUMBER    836
                     FROM -9.8438E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  2.9802E-07
```

51. A probability distribution is negative. This is bad.
    *FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 836
    / FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
    (0): Neg. prob.*

```
        FILE  6
           SECTION   5
                DISTRIBUTION IS NEGATIVE                            SEQUENCE NUMBER    836
                     FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
                     FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
        ... [1 more lines]
```

52. A probability distribution is negative. This is bad.
    *FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 836
    (0): Neg. prob.*

```
        FILE  6
           SECTION   5
                DISTRIBUTION IS NEGATIVE                            SEQUENCE NUMBER    836
                     ENERGY BALANCE SUMMARY: Q =    0.00000E+00        ENERGY BALANCE SUMMARY: Q =    0.00000E+00
                     ENERGY BALANCE SUMMARY: Q =    5.75300E+06        ENERGY BALANCE SUMMARY: Q =    5.75300E+06
```

53. A probability distribution is negative. This is bad.
    *FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 836
    / ENERGY BALANCE SUMMARY: Q = 5.75300E+06 (0): Neg. prob.*

```
        FILE  6
           SECTION   5
                DISTRIBUTION IS NEGATIVE                            SEQUENCE NUMBER    836
                     ENERGY BALANCE SUMMARY: Q =    5.75300E+06
```

54. A probability distribution is negative. This is bad.
    *FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 935 /
    FROM -8.7500E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 3.8147E-06 (0):
    Neg. prob.*

```
        FILE  6
           SECTION   5
                DISTRIBUTION IS NEGATIVE                            SEQUENCE NUMBER    935
                     FROM -8.7500E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  3.8147E-06
```

55. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 935 / FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00 (0): Neg. prob.

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   935
                 FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
                 FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
... [12 more lines]
```

56. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 946 / FROM -9.6875E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 7.7486E-07 (0): Neg. prob.

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   946
                 FROM -9.6875E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  7.7486E-07
```

57. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 968 / FROM -7.5000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.1683E-05 (0): Neg. prob.

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   968
                 FROM -7.5000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  1.1683E-05
```

58. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 968 / FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00 (0): Neg. prob.

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   968
                 FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
                 FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
... [22 more lines]
```

59. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 979 / FROM -8.3657E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.7881E-07 (0): Neg. prob.

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   979
                 FROM -8.3657E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  1.7881E-07
```

60. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 924

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*/ FROM -7.5000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -6.8545E-07
(0): Neg. prob.*

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   924
                FROM -7.5000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -6.8545E-07
```

61. A probability distribution is negative. This is bad.
*FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 935 /
FROM -5.0000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 2.9802E-06 (0):
Neg. prob.*

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   935
                FROM -5.0000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  2.9802E-06
```

62. A probability distribution is negative. This is bad.
*FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 979 /
FROM -7.5000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.6093E-06 (0):
Neg. prob.*

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   979
                FROM -7.5000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  1.6093E-06
```

63. A probability distribution is negative. This is bad.
*FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 979
/ FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
(0): Neg. prob.*

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   979
                FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
                FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
... [2 more lines]
```

64. A probability distribution is negative. This is bad.
*FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 891 /
FROM -8.7500E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 5.6028E-06 (0):
Neg. prob.*

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   891
                FROM -8.7500E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  5.6028E-06
```

65. A probability distribution is negative. This is bad.
*FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 924 /
FROM -7.5000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 2.6822E-06 (0):
Neg. prob.*

```
        FILE  6
           SECTION   5
               DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   924
                   FROM -7.5000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  2.6822E-06
```

66. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 935 /
    FROM -7.5000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 4.5896E-06 (0):
    Neg. prob.

```
        FILE  6
           SECTION   5
               DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   935
                   FROM -7.5000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  4.5896E-06
```

67. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 946 /
    FROM -8.7500E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.9670E-06 (0):
    Neg. prob.

```
        FILE  6
           SECTION   5
               DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   946
                   FROM -8.7500E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  1.9670E-06
```

68. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 968 /
    FROM -5.0000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 3.8147E-06 (0):
    Neg. prob.

```
        FILE  6
           SECTION   5
               DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   968
                   FROM -5.0000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  3.8147E-06
```

69. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 1001
    / FROM -5.0000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.1504E-05
    (0): Neg. prob.

```
        FILE  6
           SECTION   5
               DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   1001
                   FROM -5.0000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  1.1504E-05
```

70. A probability distribution is negative. This is bad.
    FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 1001
    / FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
    (0): Neg. prob.

```
        FILE  6
           SECTION   5
               DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER   1001
                   FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
                   FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
        ... [4 more lines]
```

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71. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 1012 / FROM -5.0000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS 1.9073E-06 (0): Neg. prob.

```
FILE  6
   SECTION   5
         DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER  1012
               FROM -5.0000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS  1.9073E-06
```

72. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 1012 / FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00 (0): Neg. prob.

```
FILE  6
   SECTION   5
         DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER  1012
               FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
               FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
... [6 more lines]
```

73. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 1023 / FROM -7.5000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -2.6822E-07 (0): Neg. prob.

```
FILE  6
   SECTION   5
         DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER  1023
               FROM -7.5000E-01 TO -1.0000E+00 NEGATIVE PROBABILITY IS -2.6822E-07
```

74. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 1023 / FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00 (0): Neg. prob.

```
FILE  6
   SECTION   5
         DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER  1023
               FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
               FROM -1.0000E+00 TO -1.0000E+00 NEGATIVE PROBABILITY IS -0.0000E+00
... [9 more lines]
```

75. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 1023 (0): Neg. prob.

```
FILE  6
   SECTION   5
         DISTRIBUTION IS NEGATIVE                    SEQUENCE NUMBER  1023
               ENERGY BALANCE SUMMARY: Q =  -2.08400E+06         ENERGY BALANCE SUMMARY: Q =  -2.08400E+06
               ENERGY BALANCE SUMMARY: Q =   7.35400E+06         ENERGY BALANCE SUMMARY: Q =   7.35400E+06
```

76. A probability distribution is negative. This is bad.
FILE 6 / SECTION 5 / DISTRIBUTION IS NEGATIVE SEQUENCE NUMBER 1023

/ ENERGY BALANCE SUMMARY: Q = 7.35400E+06 (0): Neg. prob.

```
FILE  6
   SECTION   5
        DISTRIBUTION IS NEGATIVE                        SEQUENCE NUMBER  1023
                  ENERGY BALANCE SUMMARY: Q =   7.35400E+06
```

- `groupie` Errors:

    1. Very small elastic cross section found
       0: Small elastic

       ```
       Multi-Group and Multi-Band Parameters from ENDF/B Data (GROUPIE 2015-2)
       ------------------------------------------------------------------------
       ENDF/B Input and Output Data Filenames
       ENDFB.IN
       ENDFB.OUT
       ... [98 more lines]
       ```

- `fudge-4.0` Warnings:

    1. Generic warning message
       Reading ENDF file: ../n-074_W_184.endf (Error # 0): Warning

       ```
       WARNING: Encountered MT=18 MF=8/10 data (not yet accepted in ENDF format). See option --ignoreMF10Fission
       ```

    2. A covariance format not yet supported by fudge (LRF=7 covariances)
       Reading ENDF file: ../n-074_W_184.endf (Error # 1): Cov. unimp. (e)

       ```
       WARNING: skipping LRF=7 resonance covariances!
       ```

    3. Dead link?
       resonances / resolved / R_Matrix_Limited / channels / channel gamma + W185 (Error # 0): unresolvedLink

       ```
       WARNING: Unresolved link to /reactionSuite/reactions/reaction[@label='23']
       ```

    4. Dead link?
       resonances / resolved / R_Matrix_Limited / channel n + W184 (Error # 0): unresolvedLink

       ```
       WARNING: Unresolved link to /reactionSuite/reactions/reaction[@label='0']
       ```

    5. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
       Section 1 (n + W184): / Form 'eval': / Component 0 (Error # 0): Condition num.

       ```
       WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
       ```

    6. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
       Section 1 (n + W184): / Form 'eval': / Component 1 (Error # 0): Condition num.

       ```
       WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
       ```

7. The on-diagonal elements of a covariance (the varience...) were very big.
   Section 28 (W185 + gamma): / Form 'eval': (Error # 0): Large variance

   ```
   WARNING: Encountered very large variance (1.898370e+02%) at index 30.
   WARNING: Encountered very large variance (6.280370e+02%) at index 31.
   WARNING: Encountered very large variance (1.504880e+03%) at index 32.
   WARNING: Encountered very large variance (3.208010e+03%) at index 33.
   ```

8. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 28 (W185 + gamma): / Form 'eval': (Error # 1): Condition num.

   ```
   WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
   ```

9. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 56 (n + W184 [angular distribution]): / Form 'eval': (Error # 1): Condition num.

   ```
   WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
   ```

- `fudge-4.0` Errors:

  1. Found a negative probability
     reaction label 0: n + W184 / Product: n / Distribution: / angularTwoBody - regions2d: / region index 0: XYs2d (Error # 0): Negative prob.

     ```
     WARNING: Negative probabilities encountered. Incident energy: 5.5e7 eV, worst case: -2.50592897077e-07
     WARNING: Negative probabilities encountered. Incident energy: 6.e7 eV, worst case: -4.15406042343e-05
     WARNING: Negative probabilities encountered. Incident energy: 7.e7 eV, worst case: -2.07630168309e-05
     ```

  2. Energy range of data set does not match cross section range
     reaction label 1: n + W184_e1 / Product: n / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

     ```
     WARNING: Domain doesn't match the cross section domain: (111819.8 -> 150000000.0) vs (111820.0 -> 150000000.0)
     ```

  3. Found a negative probability
     reaction label 4: n + W184_e4 / Product: n / Distribution: / angularTwoBody - XYs2d: (Error # 0): Negative prob.

     ```
     WARNING: Negative probabilities encountered. Incident energy: 1.3e8 eV, worst case: -1.03942506414e-06
     WARNING: Negative probabilities encountered. Incident energy: 1.5e8 eV, worst case: -0.000178038547821
     ```

  4. Energy range of data set does not match cross section range
     reaction label 5: n + W184_e5 / Product: n / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

     ```
     WARNING: Domain doesn't match the cross section domain: (1007977.0 -> 150000000.0) vs (1007980.0 -> 150000000.0)
     ```

  5. Energy range of data set does not match cross section range
     reaction label 6: n + W184_e6 / Product: n / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

     ```
     WARNING: Domain doesn't match the cross section domain: (1011486.0 -> 150000000.0) vs (1011490.0 -> 150000000.0)
     ```

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6. If an outgoing energy distribution ends with more than one energy with probability=0, proper unitbase treatment is unclear. Distribution should end with exactly one P=0 point.
reaction label 7: n + (W184_c ->W184 + gamma) / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): extraOutgoingEnergy

```
WARNING: Extra zero-probability outgoing energies found at incident energy 3.8e7 eV
WARNING: Extra zero-probability outgoing energies found at incident energy 4.2e7 eV
WARNING: Extra zero-probability outgoing energies found at incident energy 4.6e7 eV
WARNING: Extra zero-probability outgoing energies found at incident energy 5.e7 eV
        ... plus 3 more instances of this message
```

7. Found a negative probability
reaction label 7: n + (W184_c ->W184 + gamma) / Product: n / Distribution: (Error # 1): Negative prob.

```
WARNING: Negative probabilities encountered. Incident energy: 6.e7 eV, worst case: -3.3864215e-12
WARNING: Negative probabilities encountered. Incident energy: 7.e7 eV, worst case: -1.13454339664e-12
WARNING: Negative probabilities encountered. Incident energy: 8.e7 eV, worst case: -3.13260730866e-12
WARNING: Negative probabilities encountered. Incident energy: 1.15e8 eV, worst case: -1.07465177123e-14
        ... plus 2 more instances of this message
```

8. Calculated and tabulated Q values disagree.
reaction label 8: n[multiplicity:'2'] + W183 + gamma (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -7516522.915313721 eV vs -7.411e6 eV!
```

9. Energy range of data set does not match cross section range
reaction label 8: n[multiplicity:'2'] + W183 + gamma / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (7451637.0 -> 150000000.0) vs (7451640.0 -> 150000000.0)
```

10. Energy range of data set does not match cross section range
reaction label 8: n[multiplicity:'2'] + W183 + gamma / Product: W183 / Distribution: / uncorrelated - energy - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (7451637.0 -> 150000000.0) vs (7451640.0 -> 150000000.0)
```

11. Energy range of data set does not match cross section range
reaction label 8: n[multiplicity:'2'] + W183 + gamma / Product: gamma / Multiplicity: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (7451637.0 -> 150000000.0) vs (7451640.0 -> 150000000.0)
```

12. Energy range of data set does not match cross section range
reaction label 8: n[multiplicity:'2'] + W183 + gamma / Product: gamma / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (7451637.0 -> 150000000.0) vs (7451640.0 -> 150000000.0)
```

13. Energy range of data set does not match cross section range
reaction label 8: n[multiplicity:'2'] + W183 + gamma / Product: gamma / uncorrelated - energy - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (7451637.0 -> 150000000.0) vs (7451640.0 -> 150000000.0)
```

14. Calculated and tabulated Q values disagree.
    reaction label 9: n[multiplicity:'3'] + W182 + gamma (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -13153915.10180664 eV vs -1.3602e7 eV!
```

15. Energy range of data set does not match cross section range
    reaction label 9: n[multiplicity:'3'] + W182 + gamma / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (13676580.0 -> 150000000.0) vs (13676600.0 -> 150000000.
```

16. Energy range of data set does not match cross section range
    reaction label 9: n[multiplicity:'3'] + W182 + gamma / Product: W182 / Distribution: / uncorrelated - energy - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (13676580.0 -> 150000000.0) vs (13676600.0 -> 150000000.
```

17. Energy range of data set does not match cross section range
    reaction label 9: n[multiplicity:'3'] + W182 + gamma / Product: gamma / Multiplicity: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (13676580.0 -> 150000000.0) vs (13676600.0 -> 150000000.
```

18. Energy range of data set does not match cross section range
    reaction label 9: n[multiplicity:'3'] + W182 + gamma / Product: gamma / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (13676580.0 -> 150000000.0) vs (13676600.0 -> 150000000.
```

19. Energy range of data set does not match cross section range
    reaction label 9: n[multiplicity:'3'] + W182 + gamma / Product: gamma / uncorrelated - energy - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (13676580.0 -> 150000000.0) vs (13676600.0 -> 150000000.
```

20. Calculated and tabulated Q values disagree.
    reaction label 10: n[multiplicity:'4'] + W181 + gamma (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -21610003.3815918 eV vs -2.1666e7 eV!
```

21. Found a negative probability
    reaction label 10: n[multiplicity:'4'] + W181 + gamma / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): Negative prob.

```
WARNING: Negative probabilities encountered. Incident energy: 1.5e8 eV, worst case: -2.17077612569e-14
```

22. Calculated and tabulated Q values disagree.
    reaction label 11: n + H1 + Ta183 + gamma (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -7673291.981781006 eV vs -7.699e6 eV!
```

23. Energy range of data set does not match cross section range
    reaction label 11: n + H1 + Ta183 + gamma / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (7741216.0 -> 150000000.0) vs (7741220.0 -> 150000000.0)
```

24. Energy range of data set does not match cross section range
    reaction label 11: n + H1 + Ta183 + gamma / Product: H1 / Distribution: / energyAngular - XYs3d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (7741216.0 -> 150000000.0) vs (7741220.0 -> 150000000.0)
```

25. Energy range of data set does not match cross section range
    reaction label 11: n + H1 + Ta183 + gamma / Product: Ta183 / Distribution: / uncorrelated - energy - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (7741216.0 -> 150000000.0) vs (7741220.0 -> 150000000.0)
```

26. Energy range of data set does not match cross section range
    reaction label 11: n + H1 + Ta183 + gamma / Product: gamma / Multiplicity: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (7741216.0 -> 150000000.0) vs (7741220.0 -> 150000000.0)
```

27. Energy range of data set does not match cross section range
    reaction label 11: n + H1 + Ta183 + gamma / Product: gamma / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (7741216.0 -> 150000000.0) vs (7741220.0 -> 150000000.0)
```

28. Energy range of data set does not match cross section range
    reaction label 11: n + H1 + Ta183 + gamma / Product: gamma / uncorrelated - energy - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (7741216.0 -> 150000000.0) vs (7741220.0 -> 150000000.0)
```

29. Calculated and tabulated Q values disagree.
    reaction label 12: H1 + Ta184 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2035899.795288086 eV vs -2.084e6 eV!
```

30. Energy range of data set does not match cross section range
    reaction label 12: H1 + Ta184 / Product: H1 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (2095427.0 -> 150000000.0) vs (2095430.0 -> 150000000.0)
```

31. Calculated and tabulated Q values disagree.
    reaction label 13: H1 + (Ta184_c ->Ta184 + gamma) (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2035899.795288086 eV vs -2.084e6 eV!
```

32. Energy range of data set does not match cross section range
    reaction label 13: H1 + (Ta184_c ->Ta184 + gamma) / Product: H1 / Distribution: / energyAngular - XYs3d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (2095427.0 -> 150000000.0) vs (2095430.0 -> 150000000.0)
```

22

33. Energy range of data set does not match cross section range
    reaction label 13: H1 + (Ta184_c ->Ta184 + gamma) / Product: Ta184_c / Decay product: Ta184 / Distribution: / uncorrelated - energy - XYs2d: (Error # 0): Domain mismatch (a)

    ```
    WARNING: Domain doesn't match the cross section domain: (2095427.0 -> 150000000.0) vs (2095430.0 -> 150000000.0)
    ```

34. Energy range of data set does not match cross section range
    reaction label 13: H1 + (Ta184_c ->Ta184 + gamma) / Product: Ta184_c / Decay product: gamma / Multiplicity: (Error # 0): Domain mismatch (a)

    ```
    WARNING: Domain doesn't match the cross section domain: (2095427.0 -> 150000000.0) vs (2095430.0 -> 150000000.0)
    ```

35. Energy range of data set does not match cross section range
    reaction label 13: H1 + (Ta184_c ->Ta184 + gamma) / Product: Ta184_c / Distribution: / uncorrelated - angular - isotropic: (Error # 0): Domain mismatch (a)

    ```
    WARNING: Domain doesn't match the cross section domain: (2095427.0 -> 150000000.0) vs (2095430.0 -> 150000000.0)
    ```

36. Energy range of data set does not match cross section range
    reaction label 13: H1 + (Ta184_c ->Ta184 + gamma) / Product: Ta184_c / uncorrelated - energy - XYs2d: (Error # 0): Domain mismatch (a)

    ```
    WARNING: Domain doesn't match the cross section domain: (2095427.0 -> 150000000.0) vs (2095430.0 -> 150000000.0)
    ```

37. Calculated and tabulated Q values disagree.
    reaction label 14: He4 + Hf181 (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: 7312021.805633545 eV vs 7.354e6 eV!
    ```

38. Calculated and tabulated Q values disagree.
    reaction label 15: He4 + Hf181_e1 (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: 7266141.805633545 eV vs 7308120. eV!
    ```

39. Calculated and tabulated Q values disagree.
    reaction label 16: He4 + Hf181_e2 (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: 7244021.805633545 eV vs 7.286e6 eV!
    ```

40. Calculated and tabulated Q values disagree.
    reaction label 17: He4 + Hf181_e3 (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: 7213421.805633545 eV vs 7.2554e6 eV!
    ```

41. Calculated and tabulated Q values disagree.
    reaction label 18: He4 + Hf181_e4 (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: 7142021.805633545 eV vs 7.184e6 eV!
    ```

42. Calculated and tabulated Q values disagree.
    reaction label 19: He4 + Hf181_e5 (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: 7107621.805633545 eV vs 7.1496e6 eV!
    ```

43. Calculated and tabulated Q values disagree.
    reaction label 20: He4 + Hf181_e6 (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: 7060201.805633545 eV vs 7102180. eV!
    ```

44. Calculated and tabulated Q values disagree.
    reaction label 21: He4 + Hf181_e7 (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: 7014021.805633545 eV vs 7.056e6 eV!
    ```

45. Calculated and tabulated Q values disagree.
    reaction label 22: He4 + (Hf181_c ->Hf181 + gamma) (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: 7014021.805633545 eV vs 7.056e6 eV!
    ```

46. Calculated and tabulated Q values disagree.
    reaction label 23: W185 + gamma (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: 6031424.102905273 eV vs 5.753e6 eV!
    ```

47. Calculated and tabulated Q values disagree.
    reaction label 24: n[multiplicity:'2'] + H1 + Ta182 + gamma (Error # 0): Q mismatch

    ```
    WARNING: Calculated and tabulated Q-values disagree: -14250249.53271484 eV vs -1.4633e7 eV!
    ```

48. Found a negative probability
    reaction label 24: n[multiplicity:'2'] + H1 + Ta182 + gamma / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): Negative prob.

    ```
    WARNING: Negative probabilities encountered. Incident energy: 1.5e8 eV, worst case: -2.14093452426e-17
    ```

49. If an outgoing energy distribution ends with more than one energy with probability=0, proper unitbase treatment is unclear. Distribution should end with exactly one P=0 point.
    reaction label 24: n[multiplicity:'2'] + H1 + Ta182 + gamma / Product: H1 / Distribution: / energyAngular - XYs3d: (Error # 0): extraOutgoingEnergy

    ```
    WARNING: Extra zero-probability outgoing energies found at incident energy 1.3e8 eV
    WARNING: Extra zero-probability outgoing energies found at incident energy 1.5e8 eV
    ```

50. Found a negative probability
    reaction label 24: n[multiplicity:'2'] + H1 + Ta182 + gamma / Product: H1 / Distribution: (Error # 1): Negative prob.

    ```
    WARNING: Negative probabilities encountered. Incident energy: 1.5e8 eV, worst case: -6.34683406408e-12
    ```

51. A covariance matrix was not positive semi-definite, so it has negative eigenvalues.
    Section 56 (n + W184 [angular distribution]): / Form 'eval': / LegendreLValue L=1 vs 1 (Error # 0): Bad evs

    ```
    WARNING: 3 negative eigenvalues! Worst case = -5.577598e-04
    ```

52. Since the min allowed variance is 0, this means really you have a negative variance!!!!
    Section 57 (n + W184_e1 [angular distribution]): / Form 'eval': / LegendreLValue L=1 vs 1 (Error # 0): Very small variance

```
WARNING: Encountered very small variance (-2.787640e-04%) at index 16.
WARNING: Encountered very small variance (-5.812590e-04%) at index 17.
WARNING: Encountered very small variance (-1.447860e-04%) at index 18.
WARNING: Encountered very small variance (-4.155700e-05%) at index 19.
        ... plus 9 more instances of this message
```

53. A covariance matrix was not positive semi-definite, so it has negative eigenvalues.
    Section 57 (n + W184_e1 [angular distribution]): / Form 'eval': (Error # 1): Bad evs

```
WARNING: 7 negative eigenvalues! Worst case = -2.952484e-02
```

- njoy2012 Warnings:

    1. Recoil is not given, so one-particle recoil approximation used.
       heatr...prompt kerma (0): HEATR/hinit (4)

       ```
        ---message from hinit---mf6, mt102 does not give recoil za= 74185
                                photon momentum recoil used.
       ```

    2. Coefficient mismatch of some sort
       covr...process covariance data (1): COVR/matshd (2)

       ```
        ---message from matshd---processing of mat/mt 7437/  1 vs. mat1/mt1 7437/  2
                                largest coefficient= -4.06122E+00 at index 185 179
       ```

    3. The number of coefficients was too large in a covariance
       covr...process covariance data (2): Cov:Too many coeff.

       ```
        ---message from matshd---3552 coefficients > 1
                                reset and continue.
       ```

    4. The number of coefficients was too large in a covariance
       covr...process covariance data (3): Cov:Too many coeff.

       ```
        ---message from matshd--- 239 coefficients > 2
                                reset and continue
       ```

    5. Coefficient mismatch of some sort
       covr...process covariance data (4): COVR/matshd (2)

       ```
        ---message from matshd---processing of mat/mt 7437/  1 vs. mat1/mt1 7437/102
                                largest coefficient= -1.50488E+12 at index 179 177
       ```

    6. The number of coefficients was too large in a covariance
       covr...process covariance data (5): Cov:Too many coeff.

       ```
        ---message from matshd---5417 coefficients > 1
                                reset and continue.
       ```

    7. The number of coefficients was too large in a covariance
       covr...process covariance data (6): Cov:Too many coeff.

       ```
        ---message from matshd---**** coefficients > 2
                                reset and continue
       ```

25

8. Generic warning message
   covr...process covariance data (7): Warning

   ```
   ---message from stderr
   At line 832 of file endf.f90 (unit = 10, file = '../../tmp/n-074_W_184/njoy2012/gfortrantmpRqro6M')
   ```

- `njoy2012` Errors:

  1. An angular distribution is negative
     acer...monte carlo neutron and photon data (0): Neg. P(Ejμ) (b)

     ```
     ---message from ptleg2---negative probs found
                    1 for mt=  2 e= 5.500E+07
     ```

  2. An angular distribution is negative
     acer...monte carlo neutron and photon data (1): Neg. P(Ejμ) (b)

     ```
     ---message from ptleg2---negative probs found
                    8 for mt=  2 e= 6.000E+07
     ```

  3. An angular distribution is negative
     acer...monte carlo neutron and photon data (2): Neg. P(Ejμ) (b)

     ```
     ---message from ptleg2---negative probs found
                    9 for mt=  2 e= 7.000E+07
     ```

  4. An angular distribution is negative
     acer...monte carlo neutron and photon data (3): Neg. P(Ejμ) (b)

     ```
     ---message from ptleg2---negative probs found
                   52 for mt= 51 e= 1.150E+08
     ```

  5. An angular distribution is negative
     acer...monte carlo neutron and photon data (4): Neg. P(Ejμ) (b)

     ```
     ---message from ptleg2---negative probs found
                   56 for mt= 51 e= 1.300E+08
     ```

  6. An angular distribution is negative
     acer...monte carlo neutron and photon data (5): Neg. P(Ejμ) (b)

     ```
     ---message from ptleg2---negative probs found
                   35 for mt= 51 e= 1.500E+08
     ```

  7. An angular distribution is negative
     acer...monte carlo neutron and photon data (6): Neg. P(Ejμ) (b)

     ```
     ---message from ptleg2---negative probs found
                    1 for mt= 54 e= 1.300E+08
     ```

  8. An angular distribution is negative
     acer...monte carlo neutron and photon data (7): Neg. P(Ejμ) (b)

     ```
     ---message from ptleg2---negative probs found
                   37 for mt= 54 e= 1.500E+08
     ```

9. An angular distribution is negative
   acer...monte carlo neutron and photon data (8): Neg. P(Ejμ) (b)


   ```
    ---message from ptleg2---negative probs found
                     5 for mt= 16 e= 4.900E+01
   ```

10. An angular distribution is negative
    acer...monte carlo neutron and photon data (9): Neg. P(Ejμ) (b)


    ```
     ---message from ptleg2---negative probs found
                     45 for mt= 16 e= 5.875E+01
    ```

11. An angular distribution is negative
    acer...monte carlo neutron and photon data (10): Neg. P(Ejμ) (b)


    ```
     ---message from ptleg2---negative probs found
                      1 for mt= 16 e= 7.910E+01
    ```

12. An angular distribution is negative
    acer...monte carlo neutron and photon data (11): Neg. P(Ejμ) (b)


    ```
     ---message from ptleg2---negative probs found
                      1 for mt= 16 e= 1.055E+02
    ```

13. An angular distribution is negative
    acer...monte carlo neutron and photon data (12): Neg. P(Ejμ) (b)


    ```
     ---message from ptleg2---negative probs found
                      3 for mt= 16 e= 1.273E+02
    ```

14. An angular distribution is negative
    acer...monte carlo neutron and photon data (13): Neg. P(Ejμ) (b)


    ```
     ---message from ptleg2---negative probs found
                     58 for mt= 16 e= 1.320E+02
    ```

15. An angular distribution is negative
    acer...monte carlo neutron and photon data (14): Neg. P(Ejμ) (b)


    ```
     ---message from ptleg2---negative probs found
                     49 for mt= 16 e= 1.335E+02
    ```

16. An angular distribution is negative
    acer...monte carlo neutron and photon data (15): Neg. P(Ejμ) (b)


    ```
     ---message from ptleg2---negative probs found
                     50 for mt= 16 e= 1.351E+02
    ```

17. An angular distribution is negative
    acer...monte carlo neutron and photon data (16): Neg. P(Ejμ) (b)


    ```
     ---message from ptleg2---negative probs found
                     21 for mt= 16 e= 1.366E+02
    ```

18. An angular distribution is negative
    acer...monte carlo neutron and photon data (17): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
              3 for mt= 17 e= 1.257E+02
```

19. An angular distribution is negative
    acer...monte carlo neutron and photon data (18): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
              4 for mt= 17 e= 1.304E+02
```

20. An angular distribution is negative
    acer...monte carlo neutron and photon data (19): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
              55 for mt= 17 e= 1.320E+02
```

21. An angular distribution is negative
    acer...monte carlo neutron and photon data (20): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
              5 for mt= 28 e= 4.900E+01
```

22. An angular distribution is negative
    acer...monte carlo neutron and photon data (21): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
              45 for mt= 28 e= 5.875E+01
```

23. An angular distribution is negative
    acer...monte carlo neutron and photon data (22): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
              1 for mt= 28 e= 7.910E+01
```

24. An angular distribution is negative
    acer...monte carlo neutron and photon data (23): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
              1 for mt= 28 e= 1.022E+02
```

25. An angular distribution is negative
    acer...monte carlo neutron and photon data (24): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
              1 for mt= 28 e= 1.055E+02
```

26. An angular distribution is negative
    acer...monte carlo neutron and photon data (25): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
              8 for mt= 28 e= 1.163E+02
```

27. An angular distribution is negative
    acer...monte carlo neutron and photon data (26): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
              3 for mt= 28 e= 1.289E+02
```

28. An angular distribution is negative
    acer...monte carlo neutron and photon data (27): Neg. P(Ejµ) (b)

    ```
     ---message from ptleg2---negative probs found
                        48 for mt= 28 e= 1.320E+02
    ```

29. An angular distribution is negative
    acer...monte carlo neutron and photon data (28): Neg. P(Ejµ) (b)

    ```
     ---message from ptleg2---negative probs found
                        60 for mt= 28 e= 1.335E+02
    ```

30. An angular distribution is negative
    acer...monte carlo neutron and photon data (29): Neg. P(Ejµ) (b)

    ```
     ---message from ptleg2---negative probs found
                        63 for mt= 28 e= 1.351E+02
    ```

31. An angular distribution is negative
    acer...monte carlo neutron and photon data (30): Neg. P(Ejµ) (b)

    ```
     ---message from ptleg2---negative probs found
                        11 for mt= 28 e= 1.382E+02
    ```

32. An angular distribution is negative
    acer...monte carlo neutron and photon data (31): Neg. P(Ejµ) (b)

    ```
     ---message from ptleg2---negative probs found
                         3 for mt= 37 e= 1.195E+02
    ```

33. An angular distribution is negative
    acer...monte carlo neutron and photon data (32): Neg. P(Ejµ) (b)

    ```
     ---message from ptleg2---negative probs found
                         2 for mt= 41 e= 1.242E+02
    ```

34. An angular distribution is negative
    acer...monte carlo neutron and photon data (33): Neg. P(Ejµ) (b)

    ```
     ---message from ptleg2---negative probs found
                         2 for mt= 41 e= 1.304E+02
    ```

35. An angular distribution is negative
    acer...monte carlo neutron and photon data (34): Neg. P(Ejµ) (b)

    ```
     ---message from ptleg2---negative probs found
                         5 for mt= 91 e= 4.900E+01
    ```

36. An angular distribution is negative
    acer...monte carlo neutron and photon data (35): Neg. P(Ejµ) (b)

    ```
     ---message from ptleg2---negative probs found
                        45 for mt= 91 e= 5.875E+01
    ```

37. An angular distribution is negative
    acer...monte carlo neutron and photon data (36): Neg. P(Ejµ) (b)

```
             ---message from ptleg2---negative probs found
                         2 for mt= 91 e= 7.422E+01
```

38. An angular distribution is negative
    acer...monte carlo neutron and photon data (37): Neg. P(Ejμ) (b)

```
             ---message from ptleg2---negative probs found
                         5 for mt= 91 e= 1.010E+02
```

39. An angular distribution is negative
    acer...monte carlo neutron and photon data (38): Neg. P(Ejμ) (b)

```
             ---message from ptleg2---negative probs found
                         12 for mt= 91 e= 1.119E+02
```

40. An angular distribution is negative
    acer...monte carlo neutron and photon data (39): Neg. P(Ejμ) (b)

```
             ---message from ptleg2---negative probs found
                         4 for mt= 91 e= 1.163E+02
```

41. An angular distribution is negative
    acer...monte carlo neutron and photon data (40): Neg. P(Ejμ) (b)

```
             ---message from ptleg2---negative probs found
                         3 for mt= 91 e= 1.177E+02
```

42. An angular distribution is negative
    acer...monte carlo neutron and photon data (41): Neg. P(Ejμ) (b)

```
             ---message from ptleg2---negative probs found
                         1 for mt= 91 e= 1.242E+02
```

43. An angular distribution is negative
    acer...monte carlo neutron and photon data (42): Neg. P(Ejμ) (b)

```
             ---message from ptleg2---negative probs found
                         54 for mt= 91 e= 1.320E+02
```

44. An angular distribution is negative
    acer...monte carlo neutron and photon data (43): Neg. P(Ejμ) (b)

```
             ---message from ptleg2---negative probs found
                         60 for mt= 91 e= 1.335E+02
```

45. An angular distribution is negative
    acer...monte carlo neutron and photon data (44): Neg. P(Ejμ) (b)

```
             ---message from ptleg2---negative probs found
                         34 for mt= 91 e= 1.351E+02
```

46. An angular distribution is negative
    acer...monte carlo neutron and photon data (45): Neg. P(Ejμ) (b)

```
             ---message from ptleg2---negative probs found
                         22 for mt= 91 e= 1.366E+02
```

47. An angular distribution is negative
    acer...monte carlo neutron and photon data (46): Neg. P(Ejµ) (b)

```
    ---message from ptleg2---negative probs found
                       9 for mt= 91 e= 1.428E+02
```

48. An angular distribution is negative
    acer...monte carlo neutron and photon data (47): Neg. P(Ejµ) (b)

```
    ---message from ptleg2---negative probs found
                     114 for mt= 91 e= 1.459E+02
```

49. An angular distribution is negative
    acer...monte carlo neutron and photon data (48): Neg. P(Ejµ) (b)

```
    ---message from ptleg2---negative probs found
                       3 for mt= 28 e= 1.034E+02
```

50. An angular distribution is negative
    acer...monte carlo neutron and photon data (49): Neg. P(Ejµ) (b)

```
    ---message from ptleg2---negative probs found
                      22 for mt= 28 e= 1.046E+02
```

51. An angular distribution is negative
    acer...monte carlo neutron and photon data (50): Neg. P(Ejµ) (b)

```
    ---message from ptleg2---negative probs found
                       1 for mt= 28 e= 1.069E+02
```

52. An angular distribution is negative
    acer...monte carlo neutron and photon data (51): Neg. P(Ejµ) (b)

```
    ---message from ptleg2---negative probs found
                       1 for mt= 28 e= 1.096E+02
```

53. An angular distribution is negative
    acer...monte carlo neutron and photon data (52): Neg. P(Ejµ) (b)

```
    ---message from ptleg2---negative probs found
                      38 for mt= 28 e= 1.136E+02
```

54. An angular distribution is negative
    acer...monte carlo neutron and photon data (53): Neg. P(Ejµ) (b)

```
    ---message from ptleg2---negative probs found
                      55 for mt= 28 e= 1.150E+02
```

55. An angular distribution is negative
    acer...monte carlo neutron and photon data (54): Neg. P(Ejµ) (b)

```
    ---message from ptleg2---negative probs found
                      26 for mt= 28 e= 1.163E+02
```

56. An angular distribution is negative
    acer...monte carlo neutron and photon data (55): Neg. P(Ejµ) (b)

57. An angular distribution is negative
    acer...monte carlo neutron and photon data (56): Neg. P(Ejμ) (b)

58. An angular distribution is negative
    acer...monte carlo neutron and photon data (57): Neg. P(Ejμ) (b)

59. An angular distribution is negative
    acer...monte carlo neutron and photon data (58): Neg. P(Ejμ) (b)

60. An angular distribution is negative
    acer...monte carlo neutron and photon data (59): Neg. P(Ejμ) (b)

61. An angular distribution is negative
    acer...monte carlo neutron and photon data (60): Neg. P(Ejμ) (b)

62. An angular distribution is negative
    acer...monte carlo neutron and photon data (61): Neg. P(Ejμ) (b)

63. An angular distribution is negative
    acer...monte carlo neutron and photon data (62): Neg. P(Ejμ) (b)

64. An angular distribution is negative
    acer...monte carlo neutron and photon data (63): Neg. P(Ejμ) (b)

65. An angular distribution is negative
    acer...monte carlo neutron and photon data (64): Neg. P(Ejμ) (b)

66. An angular distribution is negative
    acer...monte carlo neutron and photon data (65): Neg. P(Ejµ) (b)


    ```
       ---message from ptleg2---negative probs found
                        15 for mt= 28 e= 1.351E+02
    ```

67. An angular distribution is negative
    acer...monte carlo neutron and photon data (66): Neg. P(Ejµ) (b)


    ```
       ---message from ptleg2---negative probs found
                        88 for mt= 28 e= 1.366E+02
    ```

68. An angular distribution is negative
    acer...monte carlo neutron and photon data (67): Neg. P(Ejµ) (b)


    ```
       ---message from ptleg2---negative probs found
                        31 for mt= 28 e= 1.382E+02
    ```

69. An angular distribution is negative
    acer...monte carlo neutron and photon data (68): Neg. P(Ejµ) (b)


    ```
       ---message from ptleg2---negative probs found
                        32 for mt= 28 e= 1.397E+02
    ```

70. An angular distribution is negative
    acer...monte carlo neutron and photon data (69): Neg. P(Ejµ) (b)


    ```
       ---message from ptleg2---negative probs found
                         1 for mt= 41 e= 1.226E+02
    ```

71. An angular distribution is negative
    acer...monte carlo neutron and photon data (70): Neg. P(Ejµ) (b)


    ```
       ---message from ptleg2---negative probs found
                         4 for mt= 41 e= 1.242E+02
    ```

72. An angular distribution is negative
    acer...monte carlo neutron and photon data (71): Neg. P(Ejµ) (b)


    ```
       ---message from ptleg2---negative probs found
                        21 for mt= 41 e= 1.257E+02
    ```

73. An angular distribution is negative
    acer...monte carlo neutron and photon data (72): Neg. P(Ejµ) (b)


    ```
       ---message from ptleg2---negative probs found
                        61 for mt= 41 e= 1.273E+02
    ```

74. An angular distribution is negative
    acer...monte carlo neutron and photon data (73): Neg. P(Ejµ) (b)


    ```
       ---message from ptleg2---negative probs found
                        44 for mt= 41 e= 1.289E+02
    ```

75. An angular distribution is negative
    acer...monte carlo neutron and photon data (74): Neg. P(Ejµ) (b)

33

```
                    ---message from ptleg2---negative probs found
                                        42 for mt= 41 e= 1.304E+02
```

76. An angular distribution is negative
    acer...monte carlo neutron and photon data (75): Neg. P(Ejμ) (b)

```
                    ---message from ptleg2---negative probs found
                                        2 for mt=649 e= 7.678E+01
```

77. An angular distribution is negative
    acer...monte carlo neutron and photon data (76): Neg. P(Ejμ) (b)

```
                    ---message from ptleg2---negative probs found
                                        56 for mt=649 e= 1.034E+02
```

78. An angular distribution is negative
    acer...monte carlo neutron and photon data (77): Neg. P(Ejμ) (b)

```
                    ---message from ptleg2---negative probs found
                                        37 for mt=649 e= 1.046E+02
```

79. An angular distribution is negative
    acer...monte carlo neutron and photon data (78): Neg. P(Ejμ) (b)

```
                    ---message from ptleg2---negative probs found
                                        45 for mt=649 e= 1.059E+02
```

80. An angular distribution is negative
    acer...monte carlo neutron and photon data (79): Neg. P(Ejμ) (b)

```
                    ---message from ptleg2---negative probs found
                                        84 for mt=649 e= 1.071E+02
```

81. An angular distribution is negative
    acer...monte carlo neutron and photon data (80): Neg. P(Ejμ) (b)

```
                    ---message from ptleg2---negative probs found
                                        4 for mt=649 e= 1.083E+02
```

82. An angular distribution is negative
    acer...monte carlo neutron and photon data (81): Neg. P(Ejμ) (b)

```
                    ---message from ptleg2---negative probs found
                                        80 for mt=649 e= 1.095E+02
```

83. An angular distribution is negative
    acer...monte carlo neutron and photon data (82): Neg. P(Ejμ) (b)

```
                    ---message from ptleg2---negative probs found
                                        37 for mt=649 e= 1.107E+02
```

84. An angular distribution is negative
    acer...monte carlo neutron and photon data (83): Neg. P(Ejμ) (b)

```
                    ---message from ptleg2---negative probs found
                                        2 for mt=649 e= 1.082E+02
```

85. An angular distribution is negative
    acer...monte carlo neutron and photon data (84): Neg. P(Ejμ) (b)

```
   ---message from ptleg2---negative probs found
                       2 for mt=649 e= 1.109E+02
```

86. An angular distribution is negative
    acer...monte carlo neutron and photon data (85): Neg. P(Ejμ) (b)

```
   ---message from ptleg2---negative probs found
                       3 for mt=649 e= 1.123E+02
```

87. An angular distribution is negative
    acer...monte carlo neutron and photon data (86): Neg. P(Ejμ) (b)

```
   ---message from ptleg2---negative probs found
                      35 for mt=649 e= 1.136E+02
```

88. An angular distribution is negative
    acer...monte carlo neutron and photon data (87): Neg. P(Ejμ) (b)

```
   ---message from ptleg2---negative probs found
                      22 for mt=649 e= 1.150E+02
```

89. An angular distribution is negative
    acer...monte carlo neutron and photon data (88): Neg. P(Ejμ) (b)

```
   ---message from ptleg2---negative probs found
                      58 for mt=649 e= 1.163E+02
```

90. An angular distribution is negative
    acer...monte carlo neutron and photon data (89): Neg. P(Ejμ) (b)

```
   ---message from ptleg2---negative probs found
                      74 for mt=649 e= 1.177E+02
```

91. An angular distribution is negative
    acer...monte carlo neutron and photon data (90): Neg. P(Ejμ) (b)

```
   ---message from ptleg2---negative probs found
                      69 for mt=649 e= 1.190E+02
```

92. An angular distribution is negative
    acer...monte carlo neutron and photon data (91): Neg. P(Ejμ) (b)

```
   ---message from ptleg2---negative probs found
                       9 for mt=649 e= 1.204E+02
```

93. An angular distribution is negative
    acer...monte carlo neutron and photon data (92): Neg. P(Ejμ) (b)

```
   ---message from ptleg2---negative probs found
                      27 for mt=649 e= 1.217E+02
```

94. An angular distribution is negative
    acer...monte carlo neutron and photon data (93): Neg. P(Ejμ) (b)

```
---message from ptleg2---negative probs found
              38 for mt=649 e= 1.231E+02
```

95. An angular distribution is negative
    acer...monte carlo neutron and photon data (94): Neg. P(Ejμ) (b)


```
---message from ptleg2---negative probs found
              17 for mt=649 e= 1.245E+02
```

96. An angular distribution is negative
    acer...monte carlo neutron and photon data (95): Neg. P(Ejμ) (b)


```
---message from ptleg2---negative probs found
              40 for mt=649 e= 1.258E+02
```

97. An angular distribution is negative
    acer...monte carlo neutron and photon data (96): Neg. P(Ejμ) (b)


```
---message from ptleg2---negative probs found
               2 for mt=649 e= 1.133E+02
```

98. An angular distribution is negative
    acer...monte carlo neutron and photon data (97): Neg. P(Ejμ) (b)


```
---message from ptleg2---negative probs found
              48 for mt=649 e= 1.242E+02
```

99. An angular distribution is negative
    acer...monte carlo neutron and photon data (98): Neg. P(Ejμ) (b)


```
---message from ptleg2---negative probs found
              62 for mt=649 e= 1.258E+02
```

100. An angular distribution is negative
     acer...monte carlo neutron and photon data (99): Neg. P(Ejμ) (b)


```
---message from ptleg2---negative probs found
              19 for mt=649 e= 1.273E+02
```

101. An angular distribution is negative
     acer...monte carlo neutron and photon data (100): Neg. P(Ejμ) (b)


```
---message from ptleg2---negative probs found
              83 for mt=649 e= 1.289E+02
```

102. An angular distribution is negative
     acer...monte carlo neutron and photon data (101): Neg. P(Ejμ) (b)


```
---message from ptleg2---negative probs found
              31 for mt=649 e= 1.304E+02
```

103. An angular distribution is negative
     acer...monte carlo neutron and photon data (102): Neg. P(Ejμ) (b)


```
---message from ptleg2---negative probs found
              66 for mt=649 e= 1.320E+02
```

104. An angular distribution is negative
acer...monte carlo neutron and photon data (103): Neg. P(Ejμ) (b)

```
   ---message from ptleg2---negative probs found
                     48 for mt=649 e= 1.335E+02
```

105. An angular distribution is negative
acer...monte carlo neutron and photon data (104): Neg. P(Ejμ) (b)

```
   ---message from ptleg2---negative probs found
                     47 for mt=649 e= 1.366E+02
```

106. An angular distribution is negative
acer...monte carlo neutron and photon data (105): Neg. P(Ejμ) (b)

```
   ---message from ptleg2---negative probs found
                     62 for mt=649 e= 1.382E+02
```

107. An angular distribution is negative
acer...monte carlo neutron and photon data (106): Neg. P(Ejμ) (b)

```
   ---message from ptleg2---negative probs found
                     20 for mt=649 e= 1.397E+02
```

108. An angular distribution is negative
acer...monte carlo neutron and photon data (107): Neg. P(Ejμ) (b)

```
   ---message from ptleg2---negative probs found
                     84 for mt=649 e= 1.413E+02
```

109. An angular distribution is negative
acer...monte carlo neutron and photon data (108): Neg. P(Ejμ) (b)

```
   ---message from ptleg2---negative probs found
                     64 for mt=649 e= 1.428E+02
```

110. An angular distribution is negative
acer...monte carlo neutron and photon data (109): Neg. P(Ejμ) (b)

```
   ---message from ptleg2---negative probs found
                     70 for mt=649 e= 1.444E+02
```

111. An angular distribution is negative
acer...monte carlo neutron and photon data (110): Neg. P(Ejμ) (b)

```
   ---message from ptleg2---negative probs found
                     29 for mt=649 e= 1.459E+02
```

- `acelst` Warnings:

   1. The incident energy grid is not monotonic for this angular distribution
   0: Bad Ang. Dist.

```
   ACELST WARNING - Processing Ang.Dist.MT        2
                   E-grid non-monotonic   7.000000000E+01 7.000000000E+01
```

- `endf2htm` Warnings:

    1. Build of a section of the HTML page failed because the format hasn't been implemented in ENDF2HTM.
       MF32MT151: Unimplemented

       ```
       At line 2659 of file endf.f
       Fortran runtime error: Bad value during integer read
       ```

- `xsectplotter` Warnings:

    1. Generic warning message
       (Error # 2): Warning

       ```
       WARNING: Encountered MT=18 MF=8/10 data (not yet accepted in ENDF format). See option --ignoreMF10Fission
       ```

    2. A covariance format not yet supported by fudge (LRF=7 covariances)
       (Error # 3): Cov. unimp. (e)

       ```
       WARNING: skipping LRF=7 resonance covariances!
       ```